

Amendments to the Drawings

Applicant submits herewith in an attachment one sheet of replacement drawing amending Figure 1 of the present Application. In Figure 1, the element labeled 105 "measure receiver impulse response" has been moved to provide an input only to the element labeled 120 "create receiver output pulse waveform" and to no longer providing an input to the element labeled 110 "estimate transmitted pulse waveform" for consistency with the specification. No new matter has been added.

Attachment: Replacement Sheet

Remarks

Claim 9 is amended herein for a clerical error. Claims 1-9 remain pending in the Application.

Rejection under 35 USC 112

Claims 1-9

In the Office Action, the Examiner rejected Claims 1-9 under 35 USC 112, first paragraph, as failing to comply with the written description requirement. Examiner has stated that the Claims contain subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The Examiner has stated that Figure 1, which explains the basic methodology of the invention, does not appear to be self-consistent with the instruments and measuring scheme depicted in Figure 3.

Applicant has amended Figure 1 to more clearly show the claimed methodology without adding any new matter. Applicant respectfully states that the element 105 output has been removed as the input to element 110. As such, Figure 1 now clearly illustrates the methodology as described in the specification including pages 6-12.

Applicant respectfully states that it is now clear that the measured receiver impulse response of element 105 as shown in the process of Figure 3 is distinct from the transmitted pulse waveform of element 110 and following methodology of Figure 1 as shown in elements 115, 120 and 125.

Therefore, Applicant respectfully states that the rejection under 35 USC 112, first paragraph, with respect to Claims 1-9 is overcome.

Furthermore, the Examiner has stated that Page 8 explains how the convolution integral (2) is used to estimate the "transmitted pulse incident on the receiver". The convolution integral is normally used for the inverse transformation of the product and two functions... It is not understood how it may be used to determine the pulse incident on the receiver from optical attenuator 220.

Applicant respectfully states that the amended Figure 1, having no new matter, now clearly shows that the convolution integral utilizes two inputs. The first input being the input as shown in element 105 and described in Figure 3 as the optical attenuator 220 and the second input via the process of element 110, 115 and 120 of the other branch of Figure 1. The two inputs are further defined in the Specification including pages 6-12.

Therefore, Applicant respectfully states that the rejection under 35 USC 112, first paragraph, with respect to Claims 1-9 is overcome.

In the Office Action, the Examiner rejected Claims 1-9 under 35 USC 112, first paragraph, as failing to comply with the written description requirement. Examiner has stated that the Claims contain subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The Examiner has stated that Claim 1 recites "creating an output pulse waveform by convolving a receiver impulse response and an input pulse. However, on page 6, it states, "In step 110, a transmitted pulse incident on the receiver is estimated." Thus, the specification describes how a pulse incident on

the receiver is created and not an output pulse. The pulse incident on the receiver 225 is shown in Figure 3 as the output of optical attenuator 220.

Applicant has amended Figure 1 to more clearly show the claimed methodology without adding any new matter. Applicant respectfully states that the element 105 output has been removed as the input to element 110. As such, Figure 1 now clearly illustrates the methodology as described in the specification including pages 6-12.

Applicant respectfully states that it is now clear that the measured receiver impulse response of element 105 as shown in the process of Figure 3 is distinct from the transmitted pulse waveform of element 110 and following methodology of Figure 1 as shown in elements 115, 120 and 125. That is, it is now clear that the output pulse waveform of element 120 is created by convolving the receiver input response as shown in element 105 and Figure 3, with the input pulse provided by elements 110 and 115 which is now clearly shown in the amended Figure 1.

Therefore, Applicant respectfully states that the rejection under 35 USC 112, first paragraph, with respect to Claims 1-9 is overcome.

Claim Rejections 35 USC 112

Claims 8-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly Claim the subject matter which applicant regards as the invention.

Claim 1

The Examiner has stated that Claim 1 lines 2-3 recite "creating an output pulse waveform by convolving a receiver impulse response and an input pulse." There is no step which recites where this "input pulse" is generated.

Applicant respectfully directs the Examiner to the top of page 7 of the Specification where the recitation of the "input pulse" is provided. Specifically, "referring now to Fig. 2 in light of Fig. 1, the figure shows an example of the pulse described in step 110 of Fig 1." Applicant further directs the Examiner to the amended Figure 1 which now clearly illustrates the described methodology.

Therefore, Applicant respectfully states that the rejection under 35 USC 112, second paragraph, with respect to Claim 1 is overcome.

The Examiner has stated that Claim 1 lines 4-5 recite "generating an eye diagram by repeatedly overlaying the output pulse waveform every bit period." The claim does not recite what the waveform is to be overlaid with.

Applicant respectfully states that the overlaying is done over the previous waveform(s) thus "generating an eye diagram". Applicant respectfully directs the Examiner to page 9 of the Specification and specifically step 125 for specific details on the generation of the eye diagram.

Therefore, Applicant respectfully states that the rejection under 35 USC 112, second paragraph, with respect to Claim 1 is overcome.

Claim 8

The Examiner has stated that Claim 8 lines 2-3 recite "creating an output pulse waveform by convolving a receiver impulse response and an input pulse." There is no step which recites where this "input pulse" is generated.

Applicant respectfully directs the Examiner to the top of page 7 of the Specification where the recitation of the "input pulse" is provided. Specifically, "referring now to Fig. 2 in light of Fig. 1, the figure shows an example of the pulse described in step 110 of Fig 1." Applicant further directs the Examiner to the amended Figure 1 which now clearly illustrates the described methodology.

Therefore, Applicant respectfully states that the rejection under 35 USC 112, second paragraph, with respect to Claim 8 is overcome.

Rejection under 35 USC 102(b)

In the Office Action, the Examiner rejected Claims 1-9 under 35 USC 102(b) as being anticipated by Couch (4475210). Applicant has reviewed the Couch reference and respectfully asserts that Couch does not anticipate the claimed embodiments of the present invention for the following rationale.

With reference to Claims 1 and 8, Applicant respectfully states that Claims 1 and 8 include the feature "creating an output pulse waveform by convolving a receiver impulse response and an input pulse." Support for the Claimed feature

can be found in amended Figure 1, Figures 2 and 3 and the Specification including pages 6-9.

As the Examiner has stated, the feature of “convolving” was not addressed. Moreover, Applicant does not understand Couch to teach or anticipate the claimed feature of creating an output pulse waveform by convolving a receiver impulse response and an input pulse.

Therefore, Applicant respectfully submits that Couch does not anticipate the present claimed invention as recited in Claims 1 and 8, and as such, Claims 1 and 8 are in condition for allowance. Accordingly, Applicant also respectfully submits that Couch does not anticipate the present claimed invention as recited in Claims 2-7 and 9 which are dependent on an allowable Independent Claims 1 and 8 respectively, and that Claims 2-7 and 9 recite further features of the present claimed invention. Therefore, Applicant respectfully states that Claims 2-7 and 9 are allowable as pending from allowable base Claims.

Conclusion

In light of the above amendments and remarks, Applicant respectfully requests allowance of Claims 1-9.

The Examiner is invited to contact Applicants' undersigned representative if the Examiner believes such action would expedite resolution of the present application.

Respectfully submitted,
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Date: 1/20/06



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